CAPACITY MANAGEMENT – 2014 ANNUAL REPORT (HIGHLIGHTS)

A. ACCOMPLISHMENTS

1. Completed 36 Systems/Application Right-Sizing Projects (Capacity Assessments)
2. Generated ~199 TeamQuest Server Reports (Capacity Intelligence)
3. Performed TeamQuest deployments and/or maintenance on ~158 servers.
4. TQ monitoring covered ~286 PROD Linux/Unix Servers (~95+%).
5. TQ monitoring covered ~69 NPROD Linux/Unix Servers.
6. Proactively mitigated 90+ TQ alerts before potential incidents occurred.
7. Maintained Capacity Management KPI Dashboard.
8. Maintained Storage Capacity Dashboards:
   - NetApp - SS
   - NetApp - OH
   - HDS SAN - SS
   - HDS SAN - OH
9. Maintained VMWare Capacity Dashboards:
   a. VMWare – SS (commander vSphere)
   b. VMWare – OH (president vSphere)

B. CAPACITY HEALTH ISSUES

1. PDR servers reaching peak CPU performance and low on memory - Need to optimize applications, servers, DBs; optimize apps run schedules; add more RAC Nodes (In-Progress). Look into higher density memory DIMMS.
2. Storage shortage - Currently standing (just stood) up new HUS150 and NetApp 5550 storage arrays in SS and OH.
3. Undersized VMs (vCPU, memory) - Currently being identified and upgraded.
4. Current SS and OH vSpheres might need additional MEMORY and CPU before mid-2015.
5. Ganges PROD DB server running low on memory.
6. Hornet (VLER development) running low on memory.
7. skyblue/rose development DB servers reaching CPU and Memory capacity (affecting developers' productivity) - Upgrade/procure new servers and higher memory DIMMS; or port to VMWare if feasible and pending VMWare resources.

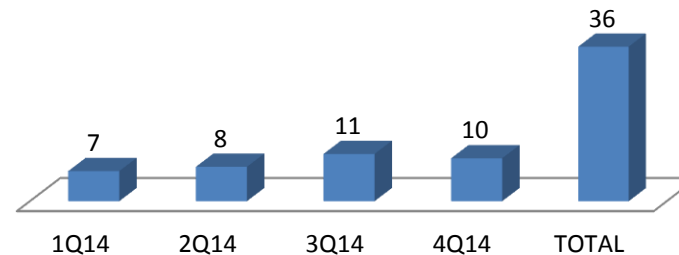# CAPACITY MANAGEMENT - KPI DASHBOARD   01/07/2015

KPI: Capacity Assessments Completed

BENEFITS: Systems & Application Right Sizing.

CSF: Provides IT services with appropriate capacity to match business needs.

| QTR	1Q14	2Q14	3Q14	4Q14	TOTAL
Count - Assessments	7	8	11	10	36
Rolling Count - Assessments	7	15	26	36	

Count - Assessments

KPI: Capacity Intelligence - Reports/Dashboards

BENEFITS: Monitoring, Trending, Forecasting, Planning.

CSF: Provides adequate capacity forecasts & Protects IT services from capacity related incidents.

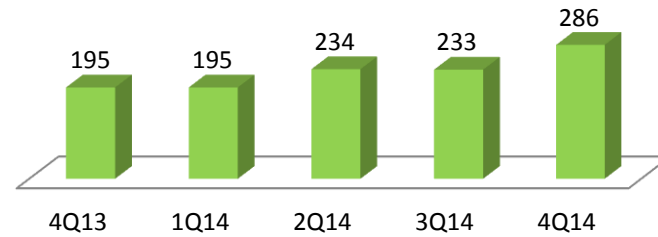| QTR	1Q14	2Q14	3Q14	4Q14	TOTAL
Count - Reports	38	93	27	41	199
Rolling Count - Reports	38	131	158	199	

Count - Reports
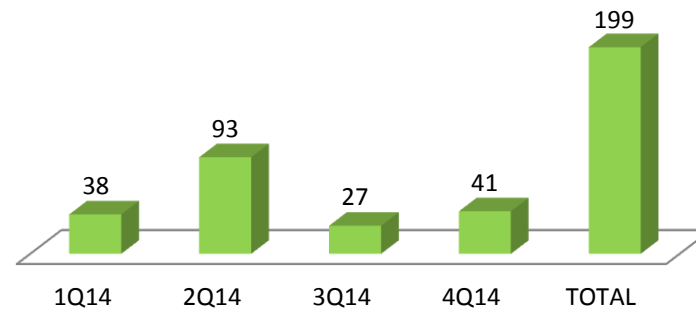
KPI: Capacity Tool Support - CMIS/TQ Operations

BENEFITS: Effective and Efficient Capacity & Performance Monitoring, Historical Data for Trending, Analysis & Reporting.

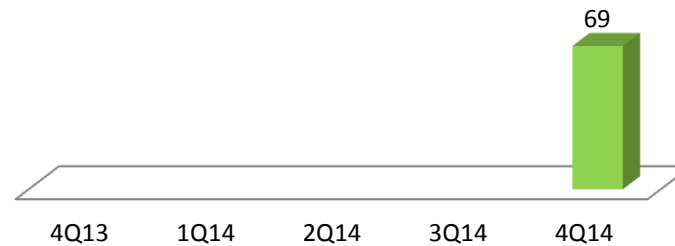**CSF:** Protects IT services from capacity related incidents.

TQ -MONITORED (PROD)

QTR	4Q13	1Q14	2Q14	3Q14	4Q14
PROD Linux/Unix Svrs	195	195	234	233	286

PROD Linux/Unix Svrs - Monitored

4Q13	1Q14	2Q14	3Q14	4Q14
195	195	234	233	286

TQ - MONITORED (NON-PROD)

QTR	4Q13	1Q14	2Q14	3Q14	4Q14
N-PROD Linux/Unix Svrs					69

N-PROD Linux/Unix Svrs - Monitored

4Q13	1Q14	2Q14	3Q14	4Q14
				69

TQ - WORKLOAD POLICY

QTR	1Q14	2Q14	3Q14	4Q14	TOTAL
Unix	7	12	4	1	24
Linux	23	53	34	48	158
Windows	0	27	3	0	30
TOTAL	30	92	41	49	212
Rolling TOTAL WL Policy	30	122	163	212	

TQ Workload Policy

1Q14	2Q14	3Q14	4Q14	TOTAL
30	92	41	49	212
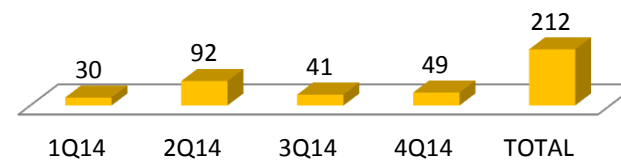
KPI: SRT Avoidance Due to TQ CMIS Monitoring
BENEFITS: Prevents Potential SRTs
CSF: Increases IT Service Availability

QTR	1Q14	2Q14	3Q14	4Q14	TOTAL
Server Alerts	12	31	52	14	95

TQ - Server Alerts

1Q14	2Q14	3Q14	4Q14	TOTAL
12	31	52	14	95